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PEDAGOGICAL LAW.

ARTICLE VI.

The Law as to Religion in Schools.

SEC. 9. RHODE ISLAND, *continued.*—As this little State is to be regarded as the pioneer, at least in this country, of what is now known as "religious liberty," we give it more attention than its geographical position or territorial extent would otherwise appear to require. On this particular subject the laws of Rhode Island merit a full explanation, both as to their letter and spirit. The Constitution and laws of this State (*Ped. Law*, art. 5, sec. 8) give no power to a school committee, nor is there any authority in the State, by which the reading of the Bible or praying in school, either at the opening or at the close, can be commanded and enforced. On the other hand, the spirit of the Constitution and the neglect of the law to specify any penalties for so opening and closing a school, or to appoint or allow any officer to take notice of such an act, do as clearly show that there can be no *compulsory* exclusion of such reading and praying from the public schools. The whole matter must be regulated by the consciences of the teachers and inhabitants of the districts, and by the general consent of the community. Statute law and school committees' regulations can enforce neither the use nor the disuse of such devotional exercises (*Ped. Law*, ch. 1, sec. 6). School committees may, indeed, recommend, but they can go no further. It is believed to be the general sentiment of the people of Rhode Island that this matter shall be left to the conscience of the teacher (*Pub. Schools Acts*, with Rem., 1857, pp. 98, 99). No book should be introduced into any public school by the committee containing any passage or matter reflecting in the least degree upon any religious sect, or which any religious sect would be likely to consider offensive (*Id.*, p. 42). While a committee, on the examination of teachers, should not endeavor to inquire into the peculiar religious or sectarian opinions of a teacher, and should not entertain any preferences or prejudices founded on any such grounds; they ought, nevertheless, and without hesitation, to reject every person who is in the

habit of ridiculing, deriding, or scoffing at religion; for such a habit may well be supposed to betray a want of that liberality which the State encourages in religious concernments, and an incapacity to teach in the magnanimous spirit of its laws (*Id.*, p. 36).

Sec. 10. Connecticut.—Although this State may have a record not altogether so clean and so free from the spirit of religious intolerance as that of Rhode Island, yet it would be very unjust to judge Connecticut at this day by its ancient colonial laws (*Ped. Law*, art. 5, sec. 4). The history of the original colonies of which this State was formed, as well as the action of the General Assembly after the union of these colonies, clearly establish the fact that a good common-school education has ever been considered the birthright of every child of the State. In 1641, a free-school was ordered to be set up in New Haven, and "the pastor, Mr. Davenport, together with the magistrates, was directed to consider what allowance should be paid to it out of the common stock." This is supposed to have been the first small beginning of the American system of free-school education. In some form, the duty of educating the whole community has been recognized in Connecticut ever since (*Com. School Acts of Conn.*, 1864, p. 2). All the laws of every State must be made and executed in accordance with the letter and spirit of its Constitution, for that is the fundamental law, and contains the principles upon which the government of the State is founded. On examining the Constitution of Connecticut (adopted in 1818), we find that the Rhode Island idea of religious liberty has been almost wholly adopted in that instrument. "The exercise and enjoyment of religious profession and worship, without discrimination, shall forever be free to all persons in this State, provided that the right hereby declared and established, shall not be so construed as to excuse acts of licentiousness, or to justify practices inconsistent with the peace and safety of the State" (*Const. of Conn.*, art. 1, sec. 3); but it is, nevertheless, held and declared to be "the duty of all men to worship the Supreme Being, the great Creator and Preserver of the Universe" (*Id.*, Art. 7, sec. 1); and, perhaps, Connecticut teachers can constitutionally be required to so worship.

Sec. 11. Massachusetts.—The Constitution of this State says: "No subject shall be hurt, molested, or restrained in his person, liberty, or estate for worshiping God in the manner and seasons most agreeable to the dictates of his own conscience; or for his religious profession or sentiments: provided he doth not disturb the public peace or obstruct others in their religious worship" (*Const. of Mass.*, art. 1, sec. 2). But "it is the duty of all men in society, publicly, and at stated seasons, to worship the Supreme Being, the great Creator and Preserver of the Universe" (*Ib.*) "The public worship of God, and instructions in piety, religion, and morality, promote the happiness and prosperity of a people, and the security of a republican government (*Const. of Mass. Amend.*, art. 11). It would

seem, therefore, that the teachers of Massachusetts might constitutionally be required not only to worship God, as in Connecticut, but to do this "publicly, and at stated seasons." The school committees are prohibited by statute (*Gen. Statutes*, tit. xi., ch. 38, sec. 27) from directing any school-books calculated to favor the tenets of any particular sect of Christians to be purchased or used in any of the town schools. It seems to be the settled policy of the State, however, to require the use of the Bible in the public schools; in fact, since the statute of 1855, "the daily reading of some portion of the Bible, in the common English version," is made obligatory. As Connecticut claims the honor of having established the first free-school on the continent, so Massachusetts claims that "she, first of all, established a sytem of public instruction, and supported it by the essential and distinctive characteristics of a State—the right and duty of taxation." (*Sec. Rep.*, 1861, p. 57.) Neither Massachusetts nor Connecticut, however, can dispute with Rhode Island the honor of having been the first "to hold forth a lively experiment, that a most flourishing civil state may stand and best be maintained with a full liberty in religious concernments" (*Ped. Law*, art. 5, sec 8). Rhode Island's "sure foundation of happiness to all America," has certainly been adopted to a considerable extent in Connecticut and Massachusetts; but the former gives religious liberty to those only who worship God, and the latter gives it only to those who worship God "publicly and at stated seasons."

Sec. 12. Maine.—This State has adopted the principal features of the Rhode Island theory of religious liberty, at least in substance. No religious test can be required as a qualification for any office or trust (*Const. of Me.*, art. 1, sec. 3). It seems, however, that a rule of school, requiring every scholar to read from the Protestant version of the Bible, may be enforced (38 Maine, 376).

Sec. 13. New Hampshire.—After setting forth some principles that harmonize perfectly with those advanced in Rhode Island, the Constitution of this State asserts and maintains as follows: "As morality and piety, rightly grounded on evangelical principles, will give the best and greatest security to government, and will lay, in the hearts of men, the strongest obligations to due subjection; and as the knowledge of these is most likely to be propagated through a society by the institution of the public worship of the Deity, and of public instruction in morality and religion; therefore, to promote these important purposes, the people of this State have a right to empower, and do hereby fully empower, the Legislature to authorize, from time to time, the several towns, parishes, bodies corporate, or religious societies, within this State, to make adequate provision, at their own expense, for the support and maintenance of public Protestant teachers, of piety, religion, and morality" (*Const. of N. H.*, part 1, art. 6).

Sec. 14. Vermont.—To a declaration of religious liberty, amounting to

about the same in substance as that which is maintained in Rhode Island, the Constitution of this State adds the following: "Nevertheless, every sect or denomination of Christians ought to observe the Sabbath, or Lord's day, and keep up some sort of religious worship, which to them shall seem most agreeable to the revealed will of God" (chap. 1, art. 3).

Sec. 14. New York.—The "lively experiment" of Rhode Island has, it is thought, been fully adopted by the Empire State, and is, at least in substance, incorporated in the Constitution. "The free exercise and enjoyment of religious profession and worship, without discrimination or preference, shall forever be allowed in this State to all mankind (*Const. of N. Y.*, art. 1, sec. 3). The school-teacher, in common with all others, can insist upon enjoying the benefit of this constitutional provision, but it behooves him, nevertheless, to bear in mind, under all circumstances, that he is the agent of the State, and must teach in the spirit of its laws. He should never for a moment forget that his scholars are protected by the law equally with himself. While he may exact from his examiners and others, he must himself also exhibit the liberality and magnanimity in this respect that is proclaimed in the organic law of his State, or he is unfit for the vocation of public teacher, and he may be so declared. The State, however, so far as it can consistently with its organic law, and without prejudice to any, would foster piety in the citizen; and, therefore, it is not considered unlawful to open and close school with prayer and reading of the Scriptures, provided that all discussion of controverted points and sectarian dogmas be carefully avoided. The policy of New York is the same in this respect as that of Rhode Island (sec. 8).

Sec. 15. New Jersey.—The law as to religion is the same, in substance, in this State as in New York and Rhode Island (*Const. of N. J.*, art. 1, sects. 3, 4.)

Sec. 16. Pennsylvania.—This State, like several others, seems to contradict itself on the subject of religious liberty. "No preference shall ever be given, by law, to any religious establishments or modes of worship" (*Const. of Pa.*, art. 9, sec. 3.) "No person *who acknowledges the being of a God and a future state of rewards and punishments*, shall, on account of his religious sentiments, be disqualified to hold any office or place of trust or profit under this Commonwealth" (*Id.*, sec. 4). If this is an attempt to imitate the liberality of Rhode Island, it is not altogether successful. "We, therefore, declare, that no man shall be compelled to frequent or to support any religious worship, place, or ministry whatever, except in fulfillment of his own voluntary contract; nor enforced, restrained, molested, or burdened in his body or goods; nor disqualified from holding office; nor otherwise suffer on account of his religious belief; and that every man shall be free to worship God according to the dictates of his own conscience, and to profess, and by argument to maintain, his opinion in matters of religion; and that the same shall in nowise diminish, enlarge,

or affect his civil capacity" (*Const. of R. I.*, art. 1, sec. 3). It will be noticed that no condition is here interposed, but the liberty is complete and unrestricted. In Pennsylvania, teachers might constitutionally be required to "acknowledge the being of a God, and a future state of rewards and punishments" (*Const. of Pa.*, art. 9, sec. 4), but in Rhode Island such a requirement would be unconstitutional. In practice, however, it does not appear that the people of the one State are less liberal than those of the other. For in Pennsylvania it is held that "church influence should never be permitted to swerve a director from the line of duty in the selection of teachers" (*School Doc.*, No. 159); and "the religious predilections of pupils and their parents and guardians, are required to be sacredly respected—sectarian instruction not being considered the province of the schoolmaster but of the parent or guardian, and the spiritual teacher selected by him (*School Doc.*, No. 162). Consequently, sectarian works are excluded from the schools (*School Doc.*, No. 187). But "the Scriptures come under the head of text-books, and they should not be omitted from the list" (*School Doc.*, No. 186).

OUR NORMAL SCHOOLS.

A TEACHERS' seminary was first established by Franke, about 1704, at Halle, in Prussia; and during the present century the example of Prussia has been followed by Holland, France, Great Britain, and Russia. In our own country, we find that as early as 1816 Mr. Denison Olmsted (afterwards Prof. Olmsted of *Yale College*) proposed for Connecticut a "plan of an Academy for Schoolmasters." But we have no proof that this ever became any thing more than a suggestion. The State of New York first took definite action in so important a matter, in the year 1836, by adding a Teachers' Department to one Academy in each of its eight Senatorial districts. However, as these "Teachers' Departments" were not a primary but a secondary object in the Academies, perhaps some would think they ought not to be considered an institution by themselves. At all events, it was Massachusetts that first established in this country the *Normal School*, so called,—a school designed exclusively for the training of teachers for the Common Schools. In 1838, the subject having been for some time a matter of interest with friends of education in the State, the generosity of Edmund Dwight, of Boston, placed at the disposal of the Board of Education the sum of $10,000 for this purpose, provided the Legislature would furnish an equal sum. This was done; and soon after, aided by further contributions from individuals and towns, three Normal Schools were established, at Lexington, Barre, and Bridgewater. The State now has four,—at Bridgewater, Framingham, Salem, and Westfield.

We did not intend in this article to give any statistics of the rise and present condition of Normal Schools in the different States ; we have only given enough to tell of the beginnings of the system in this country. We have at present a few words to say upon the merits and faults of the system.

That the theory of Normal Schools is a good one, few will deny. Although observation confirms us in the belief that the best teachers have a natural aptness for their work,—an aptness which is better than all training,—and that the faculty to teach, as well as the faculty to govern, is a gift ; although, too, on the other hand, no amount of training will make a good teacher of many a one we can think of, yet these are the extremes. The question is, whether those of moderate abilities and fair adaptation to such a work are not better qualified for it by a course of instruction under competent persons, which is designed to test and compare the efficacy of different methods, and to afford a sort of trial-ground for the practice of these methods ; also, whether even those of superior abilities and decided powers of adaptation are not thus roused to a keener interest in their work, if not to the discovery of new and improved methods ? As for those whom nature never designed for the important work of teaching, and whom, consequently, no art can qualify, such a system ought, it seems to us, to do great good to the community by pronouncing them incompetent, and refusing to recommend them at the conclusion of the course of study. Certainly two years should be sufficient to sift out all such ; and perhaps, to be perfectly fair to them, unless in extreme cases, they should be allowed to remain through this time, that their mental *status* may be fully known.

Yes, we think the theory of the Normal School is sound ; and its practical workings have not prevented many great thinkers from giving testimony in its favor ; such men as Franke, Cousin, Lord Brougham, Dr. Channing, De Witt Clinton, etc., etc. There are only two points of difficulty, as it seems to us. First, *there should be at the head of such schools superior men.* They should be men of liberal education (not merely, as the phrase is, "liberally educated") ; for if their knowledge is bounded by the limits of arithmetic, geography, and grammar, and a smattering of information on higher topics, their pupils will be very likely to be as superficial and pretentious as they are. They should themselves have been experienced and successful teachers ; for thus only can they give practical instruction in the art of teaching. Moreover, they should be men of genial disposition and cultivated manners,—in one word, *gentlemen ;* for their unconscious influence in this very important part of education, upon those whom they are thus preparing for the teacher's work, will be again reproduced upon the more impressible minds of children. Again, *there should be great care in pronouncing any fit to teach and recommending them to the public.* In Prussia, besides the Teachers' Seminaries, there

is in many places a kind of preliminary school, "where pupils are received, in order to determine whether they are fit to become candidates to be candidates." If, from any failure of body or mind, one is here pronounced incompetent to teach, and dismissed at the close of his probationary term of six months, he is thus prevented from ever entering the Teachers' Seminary. Or if he goes on into this school, he has again to stand the test of a more severe examination after his three years' course of study. Saying nothing of such strictness as this, we are sure there has been with us too much laxness in this matter.

It is a failure in just these two points which we have noted, that has caused a deep-seated prejudice against Normal Schools in the minds of many of the community. Some of the States may have always had worthy men at the head of their schools of this class; but we know of one, at least, the Principal of whose Normal School, while he is esteemed as a very good man, is far from commanding respect for his attainments. It is of no use to parade the names of any such on the pages of educational journals, nor to dub superficial Normal School teachers with the title of "Professors;" the better portion of the public soon detect the empty sound. Again, we are not the only ones who have met with graduates of Normal Schools whose want of knowledge has been as evident as their self-conceit has been disgusting. These are they who, from their talk, seem to think that all the wisdom of the world is centered in some Normal School; and when we associate their idea of wisdom with the fact of their ignorance, what wonder that the Normal School is brought into disrepute? Now we do not think there is any thing in the system necessarily tending to foster this self-conceit; we only say that such persons, male or female, should never be allowed to graduate. The evil, in a measure, works its own cure, for such superficiality generally soon spends itself, and teaching is abandoned; yet even in this case, the reputation of the Normal School is injured, and the profession of teaching thought less of.

We consider the Normal School system an effective way of training Common-School teachers for their work, and the only effective way which has yet been discovered. Horace Mann, at the conclusion of his term of office as Secretary of the Massachusetts Board of Education, on looking back over the special instrumentalities used for twelve years to improve the Common Schools of that State, says: "I can not refrain from assigning the first place, in adaptedness and in efficiency, to our State Normal Schools." And the experienced visitors of one of the best Normal Schools in the country, in their last report, say: "After having shared in the benefits of the system for more than a quarter of a century, the policy of maintaining it may be considered as settled. It only remains to make it as perfect as the experience and observation of its friends may enable them to do." From this we have no wish to dissent; and any strictures we may have made have been only to the same end. The great need

is of *more thoroughness* in education. Teachers are to be better qualified for their work ; scholars are to be made to understand that they *must study*. Nor is there less call for all this in our higher schools, and, alas ! in many of our colleges. When teachers, from highest to lowest, shall not be permitted to take their places before good evidence is given of their competency, and when such inducement of large and permanent remuneration shall be offered, as to draw men of decided talent, who wish also to secure a respectable livelihood, then teaching shall be established as a profession, and the best interests of education shall rapidly advance.

AEROSTATION.

EARLY ATTEMPTS.

THE earliest aerostatic attempts on record were imitations of the flying apparatus of birds. Archytas of Tarentum, a Pythagorean, is said to have constructed an automatic pigeon which could fly. In the thirteenth century a citizen of Bologna flew from the mountains of Bologna to the river Reno, and was so unfortunate as to sustain no injury ; for he thus drew upon himself the wrath of the Inquisition, which pronounced him in league with the devil, and put him to death. In 1742 the Marquis de Bacqueville advertised that on a certain day he would fly from his house on the *Quai des Theatins* to the Tuileries. He actually accomplished more than half the distance, when, losing his strength and being no longer able to use his wings, he fell into the Seine, where he struck a floating laundry and broke his leg.

BALLOONING.

The first enunciation of the principles on which aerial navigation must depend was by Roger Bacon, in the twelfth century. This indefatigable student had discovered that air possesses weight, and he therefore conceived that if a hollow globe of thin brass were filled with "liquid fire or ethereal air" it would float in the atmosphere as a hollow vessel floats upon water. To what he referred by liquid fire and ethereal air can not be determined ; but these are generally known as alchemistic terms for rarefied air. But Bacon made no attempt to sustain his theory. It therefore fell into oblivion, and we hear of no efforts in this direction until the middle of the eighteenth century, when Cavallo experimented rather unsuccessfully with hydrogen.

In 1782, Stephen and Joseph Montgolfier, wealthy paper manufacturers at Annonay, noting that clouds and smoke rise in the air, concluded that a bag, made of light material, would also rise if inflated with smoke or

some similarly expanded substance. They therefore made a small balloon,* of fine paper, and filled it with rarefied air by a fire of chopped wool and straw kindled underneath. When fully inflated, the apparatus rose with such ease that the brothers were encouraged to exhibit the discovery on a much larger scale. On this occasion a linen bag, twenty-five feet in diameter, was used. It rose rapidly to a height of one thousand feet, and, after some time, fell at a distance of three miles from its starting point. The discovery now attracted the attention of the French Academy, at whose request the brothers went to Paris, and there constructed a new balloon, seventy-four feet by forty-one, elegantly ornamented, and weighing one thousand pounds. When released from the ropes, this, with a load of five hundred pounds, reached an elevation of one thousand five hundred feet, where, unfortunately, a gust of wind overturned it, and caused such material injury that a new machine was necessary for further experiments.

The investigations of the French Academy appeared to prove that man could, by means of the new discovery, navigate the atmosphere ; and it was not long before persons of sufficient daring were found to undertake aerial voyages. Montgolfier having offered to make a balloon of more durable texture, M. Pilatre de Rozier consented to be the first aeronaut. The new machine was seventy-four feet by forty-eight, weighed about one thousand two hundred pounds, and was ornamented with the zodiacal signs and the royal insignia. In this M. Pilatre made several ascensions, and on one occasion, accompanied by the Marquis d'Arlandes, attained a height of three thousand feet, and descended about five miles from Paris.

HYDROGEN GAS EMPLOYED.

Ascensions in the Montgolfier balloons were always dangerous, and were never very extensive. To remedy these defects, Dr. Black recommended hydrogen as a substitute for rarefied air. Acting upon his suggestions, the French Academy employed Messrs. Roberts to construct, under the supervision of Prof. Charles, a silken balloon, thirteen feet in diameter. When set free, this almost instantly attained a height of three thousand feet, and, after remaining suspended for three quarters of an hour, descended fifteen miles from Paris. This experiment was so successful, that a larger balloon, of twenty-seven feet diameter, was immediately made. In this, on December 1st, 1785, Prof. Charles with M. Roberts ascended six thousand feet, and, after an absence of one hour and three-quarters, descended twenty-seven miles from Paris. Here M. Roberts left the car, and, there being still some ascensive power, Prof. Charles reascended, rising almost immediately nine thousand feet, and ultimately, by throwing over ballast, ten thousand feet. When he left the surface

* So called from its resemblance to a chemical instrument then much used.

the thermometer stood at 57° F., but in ten minutes it sank to 21°. When he started the sun had set, but when he attained the extreme height it was again visible. "I was," he said, "the only illuminated object, all the rest of nature being plunged in darkness." This ascension is important, as it first proved the existence of counter-currents in the atmosphere.

In the same year M. Blanchard, with Dr. Jeffries, an American physician, crossed from Dover to Calais in two hours and one-half. The voyagers were several times in great danger, but especially when nearing the French coast. They were met with great consideration, and M. Blanchard received twelve thousand livres from the king. M. Pilatre de Rozier attempted to rival Blanchard by crossing in the opposite direction. In order to avoid the dangers encountered by the latter, he fastened a small Montgolfier balloon to the car. Scarcely had he risen three thousand feet, when the upper balloon took fire from the lower: a fearful explosion followed, and the aeronaut was soon afterwards found in a fearfully mangled condition. This was the first fatal accident—there have been many since.

Previous to 1821 few aerial voyages were made. The manufacture of hydrogen was expensive, and balloons were so clumsily constructed that none but foolhardy men would risk their lives in them. In that year Mr. Green, who during his life made more than two hundred ascensions, conceived that light carburetted hydrogen, or illuminating gas, would answer equally well, and be far less expensive. His experiments were successful, and gave a wonderful impetus to the science.

PARACHUTES.

It has been long known that an umbrella held over the head greatly retards the rate of falling, and that a contrivance of the sort has been much used by vaulters in the East. The disaster to M. Pilatre led M. Blanchard to experiment with an umbrella-shaped parachute, or "guard in falling." To this he attached a dog, which, though dropped from a great height, reached the ground unhurt. In 1802 M. Garnerin descended safely from an immense elevation by aid of a parachute twenty-three feet in diameter. In 1837 Mr. Cocking attempted a descent in a peculiar parachute of his own invention, one hundred and seven feet in circumference, but was killed, the apparatus being too feebly constructed. Owing to an impression fast gaining ground among aeronauts, that, in bursting, the balloon itself forms a parachute, these protectors are seldom used. Mr. Wise, one of the most intrepid voyagers, has twice tested this theory. On the first occasion the balloon burst at the height of eleven thousand feet, and, immediately assuming the umbrella shape, descended at a uniform rate of speed. At the second trial the mass of the balloon collected on the side, and threatened destruction to the voyager. It, however, "caught the wind as a sail," and descended uniformly.

SENSATIONS OF AERONAUTS.

In the early days of ballooning, when ascensions were the privilege of few, aeronauts saw strange sights and experienced peculiar sensations. One old voyager reported that birds, when dropped from a balloon, fly round for a few minutes as though bewildered, and then return. The truth is, birds drop vertically until they distinguish some object, after which they descend in a spiral. Another asserted that, after he rose to a great height, his head became so small that his hat fell down over his face. *Per contra*, another philosopher said that his head became so large as to burst open his hat. Of the two, we prefer the latter account, as more in accordance with probability. Perhaps the most astonishing experience on record is that of a scientific man, well advanced in years, who took a lonely voyage to a great elevation. His wrinkled face and hands filled out, and appeared to regain the freshness and beauty of youth. Unfortunately, the rejuvenation disappeared as he descended to denser strata, and the elixir of life remains undiscovered.

The best description of an aeronaut's sensations is that of Mr. Glaisher, the English meteorologist, whose late ascensions have rendered his name familiar to us all. "On the 5th of September, 1862, at one o'clock P. M., the ascension commenced. They reached two miles in height at twenty-one minutes past one o'clock, and reached the fifth mile ten minutes before two, when the thermometer had fallen to 2° F. Up to this time Mr. Glaisher had taken observations with comfort; soon, however, both observers breathed with difficulty, their sight became dim, and their hands almost useless, so as to be unable to write. Mr. Glaisher became insensible, and Mr. Coxwell felt that insensibility was coming over himself. Becoming anxious to open the valve, he found his hands failed him, and he instantly seized the line between his teeth and pulled the valve two or three times, until the balloon began to descend. In the course of a few minutes Mr. Glaisher revived, and by the time he reached the earth his faintness had entirely disappeared." During this extraordinary voyage, in comparison with which all others sink into utter insignificance, the aeronauts must have attained the altitude of six miles.

UTILITY OF THE SCIENCE.

Thus far aerostation has proved of little utility. Advantage has been taken of it to solve meteorological questions, but the results have not equalled the expectations. The oscillatory motion of the balloon renders delicate experimentation impossible, and, after passing a height of four miles, the personal distress of the observer is so great, that careful investigation is entirely out of the question. During the last decade of the eighteenth century the French government maintained a corps of balloonists in connection with the army. In June, 1794, just before the battle of

Fleurus, M. Contel ascended twice, and procured such valuable information that, on the following day, Gen. Jourdan gained a decisive victory over the Austrians. Balloons were also used, to some extent, in more recent European wars. At the beginning of the late civil war our government employed balloons, but soon abandoned them as entirely useless.

For fifty years it has been a favorite notion with some that eventually balloons will supersede steamships, and that voyages now requiring many days will be performed in a few hours. It is certain that balloons may be thus used, if the wind be favorable ; for a few years ago La Mountain, with two companions, made a voyage of upwards of a thousand miles. Numerous other voyages, varying in length from fifty to two or three hundred miles, have been successfully performed, and the speed in several instances exceeded the best ever made by a passenger-train on a railroad. The main difficulty to be overcome is the resistance of the wind. Within a few years several plans have been published which appear feasible. The late Gen. Mitchel advised the construction of a machine in which the propelling power should be the revolution of large spiral fans worked by steam. He estimated that fans twenty feet long, and made of copper, would propel a vessel weighing six tons. The principle is not new, and is exhibited in a little toy of which many thousands are in use. In France an enterprising aeronaut recently tested an apparatus by which he proved it possible to move against currents of wind, and to ascend or descend without recourse to the valve. The principle upon which he works has not been made public.

The most plausible method yet presented appears to be that of Dr. Andrews. In 1849 he constructed his first aerial ship, eighty feet long, twenty feet wide, and ten feet deep. No thorough experiment was made with this vessel. In 1862, having become convinced of the uselessness of the present form of balloon in army reconnoitering, he made drawings, and wrote a description of his invention, and offered the whole to the government. Receiving no encouragement, he made a public exhibition of his apparatus at Perth Amboy, in 1863. The form was that of three cigars secured at their longitudinal equators, and supporting, by one hundred and twenty cords, a car sixteen feet below. The ascension was successful. The vessel rose in a spiral, at the rate of one hundred and twenty miles per hour, and appeared to move as easily against the wind as with it. A short time since Dr. Andrews made a second ascension, but was not so successful as on the first occasion, the ropes connected with the steering apparatus having become disarranged. Enough, however, was gained to show the feasibility of the plan. The motive power is simply gravitation. When a sheet of paper is thrown into the air it does not fall vertically, but in the direction of least resistance ; it slides down. The air-ship is constructed on the same principle. When the aeronaut wishes to ascend, he throws the ballast towards the stern, and the vessel,

instead of rising vertically like a common balloon, slides upward, all the time moving forward. When he desires to descend, the ballast is thrown toward the bow and gas is suffered to escape, and the ship slides downward. Thus, by a succession of ascents and descents, the navigator goes forward, the time and distance being limited only by the supply of gas and ballast.

"SHALLOW THEORISTS."

"SHALLOW THEORISTS" is a term applied by an author, in a late treatise on school government, to that class of speakers and writers who oppose the practice of flogging in school. We are left to the meager self-explanation of the paragraph in which this expression occurs for a discovery of the author's meaning. Brevity so distinguishes that paragraph, that a passing wit-hunter would, on seeing it, pause and make eager search therein, in the full assurance that at last he had hit upon the very body wherein dwells the soul of wit. Its length just suffices to enable the author to say that, of course, the opposition of "shallow theorists" to the practice of flogging pupils is not worthy of consideration.

We could wish that he might be mistaken in his estimate of those who oppose this practice. We are acquainted with not a few interested in school affairs—teachers, school officers, and others—who oppose the practice, and yet are reputed as experienced, and wise, and practical, and successful. We do not wish now to have our opinion concerning them changed. And, besides, we earnestly desire that the dismal talk which the practice has occasioned in all generations since schools were established might die away in ours—a practice which pupils have always regarded with such abhorrence, that there has ever largely existed in the minds of the young a peculiar dislike for the teacher, arising from associating the rod with his occupation. Dislike for the teacher engenders dislike for study, and even if the latter exist not, there remains an indisposition to receiving instruction from a disagreeable person. The first requisite in teaching is the gaining of the pupil's good-will. The veriest ruffian in a school becomes manageable when the teacher secures his good-will. In most cases he is not a ruffian anywhere but in school. And he is a ruffian there because he enters under the influence of the traditional notion that he will be flogged if he does wrong. Deeply seated in the nature of man is an aversion to being struck. A blow is felt to be an insult. It degrades. It assumes that one cannot be reached by the way of reason, like a human being, but must be reached by the way of bodily pain, like a brute. The pupil may not be able to state his thoughts, but he feels that he is treated as a brute. You can not beat that out of him. You may say that he is struck because he is irrational, but the striking makes him less rational. It may, in its way,

finally prevent a recurrence of an offence, but not through reason humanly, but through fear brutishly. And the aversion rises and makes the striker its object. In ninety-nine cases out of a hundred it does. In the hundredth case the pupil recognizes in the teacher what is really existent, a spirit of good-will prompting him, however mistakenly to the pupil's mind, to inflict the blows for the pupil's good. It is on account of this that pupils are found who afterwards regard with friendliness teachers who have whipped them. But we believe it to be the hundredth case—the thousandth, perhaps. In the ninety-nine, or the nine hundred and ninety-nine, the pupil dislikes, yes, hates, his flogger. And the dislike communicates itself to the minds of other pupils, even those who are never flogged. It is the old Roman spirit that deemed a blow an indignity, and made every Roman citizen feel with the one who might have been struck. It is the spirit of Paul when he retorted to the High Priest who had commanded that he should be smitten on the mouth, "God shall smite thee, thou whited wall!" Undegraded humanity sympathizes with Paul.

The customary practice of flogging pupils, then, fosters in the minds of the young a general feeling of dislike for teachers—a most serious obstacle to success in teaching. A teacher, it is true, has the opportunity of displacing the dislike when in their turn the young come in contact with him; but if he does not—if he still fosters its development—he is lessening his own value to his employers by closing up the avenues by which instruction is conveyed to the pupil's mind.

And all this, assuming moderation in the use of the rod. But if we consider the conditions under which the rod is used in school, we shall see that the cases of indiscriminate whipping must needs be certain and frequent. The conditions are such as the combined wisdom of centuries seeks to prevent, in other spheres, as productive of wrong and cruelty. The offended party punishes the offender. Now, taken as an abstract question, not the teacher but his law is the object offended by the transgressor, and it is from this point of view that speakers and writers upon the subject of corporal punishment have so calmly and benignantly assumed that the pain is inflicted in a loving, parental sort of way, and is followed by smiles from the whipper, and affectionate acknowledgments from the whipped. We fear that this is an impracticable mode of treating the subject. Talk as you will, teachers, in too large a measure, are wont to regard a transgression of their rules as an affront to themselves. They are wont to have the feelings of an offended party, and, thus, to be placed in the offended party's position. Aggravation is found in the circumstance that in the school-room the teacher is an absolute monarch, and absolute monarchy, with offences to the monarch, leads to abuse. But, even ordinarily, conventional wisdom asserts that justice is in general sure to be perverted if the management of the offender's case is intrusted to the one offended—that passion, in such a case, is too dangerously apt to rule, not judgment; re-

venge, and not restitution ; cruelty, not mercy ; alienation, and not repentance ; and so it hedges in the offender from the offended, and hands the case over to the management of a number of unoffended minds. Witnesses, a jury, a judge, lawyers, a sheriff, and other officers, manage the affair dispassionately. Not so in the school. The teacher is the offended party, police, witness, lawyer, jury, judge, and sheriff. What is the result? Just what conventional wisdom assumes it would be. All seven offices are too often filled within the rapid succession of seven brief moments. Vengeance sometimes reserves the blow, and packs the culprit off to the horrible solitude of a room devoted to the purpose, to think upon his sins and look forward to the consequences of them, and wish he was big enough to whip the master. Flogging is too apt to be either the passionately blundering effort of a blind guide to lead one who knows the way into the right path, or else it is unmitigated brutality.

What is the professed object of the flogging? Correction. What is correction? It is the process of causing to turn from a wrong state of mind and a wrong course of action to a right state and a right course. What is the state of mind produced by the flogging? Disgust, resentment, insubordination, the memory of the flogger as an object of abhorrence. What is the course of action produced by the flogging? Covert disorder, truancy, or a resort to employment too early in life, or a resort to another school, or a suppression of native nobility. Correction! Perhaps it would be well to learn that saying, *I will be treated rationally.*

That is the point. Reason exists in the pupil. Being there, it instinctively insists on being respected. It is hard enough sometimes, it is true, to reach it. When it lies under rudeness or insensibility to good-will, or determined insubordination, then the reaching of it is hard. Inability to reach it, in any case, however, is a needless defect in the teachers. Difficulty is not impossibility. Reason exists in the most brutish, and in the most brutish it has been reached without corporal punishment. It can be done, however, only when neither pupil nor teacher is in a passion, and only when the teacher feels kindly towards the pupil. An experienced teacher lately remarked, "So far as I have been able to control myself, I have been able, without the rod, to control my pupils." Large schools are kept in the best of order without the rod. Good-will is the law. Disorder there is unpopular, and so is shamed down. The question has, in the present generation, been pushed by facts beyond "theory" into law and settled belief. Certainly, humanity favors the law.

A YOUNGSTER, perusing a chapter in Genesis, turned to his mother and inquired if the people in those days used to do sums on the ground? He had been reading the passage, "And the sons of men multiplied on the face of the earth."

THE OCEAN WINDS.*

WHENCE come they? From the immeasurable deep. Their wide wings need the breadth of the ocean gulf; the spaciousness of the ocean solitude. The Atlantic, the Pacific—those vast blue plains—are their delight. They hasten thither in flocks. Commander Page witnessed, far out at sea, seven water-spouts at once. They wander there wild, terrible! The ever-ending yet eternal flux and reflux is their work.

The extent of their power, the limits of their will none know. They are the sphinxes of the abyss; Gama was their Œdipus. In that dark, ever-moving expanse, they appear with faces of cloud. He who perceives their pale lineaments in that wide dispersion, the horizon of the sea, feels himself in the presence of an unsubduable power. It might be imagined that the proximity of human intelligence disquieted them, and that they revolted against it. The mind of man is invincible, but the elements baffle him. He can do nothing against the power which is everywhere, and which none can bind. The gentle breath becomes a gale, smites with the force of a war club, and then becomes gentle again. The winds attack with a terrible crash, and defend themselves by falling into nothingness. He who would encounter them must use artifice. Their varying tactics, their swift, redoubled blows, confuse. They fly as often as they attack. They are tenacious and impalpable. Who can circumvent them? The prow of the Argo, cut from an oak of Dodona's grove, that mysterious pilot of the bark, spoke to them, and they insulted that pilot-goddess.

Columbus, beholding their approach near *La Pinta*, mounted upon the poop and addressed them with the first verses of St. John's Gospel. Surcouf defied them: "Here come the gang," he used to say. Napier greeted them with cannon balls. They assume the dictatorship of chaos.

Chaos is theirs, in which to wreak their mysterious vengeance. The den of the winds is more monstrous than that of lions. How many corpses lie in its deep recesses, where winds beat without pity upon that obscure and ghastly mass! The winds are heard wheresoever they go, but they give ear to none. Their acts resemble crimes. None know on whom they cast their hoary surf: with what ferocity they hover over shipwrecks, looking at times as if they flung their impious foam-flakes in the face of heaven. They are the tyrants of unknown regions. "*Luoghi Spaventosi*," murmured the Venetian mariners.

The trembling fields of space are subjected to their fierce assaults. Things unspeakable come to pass in those deserted regions. Some horseman rides in the gloom; the air is full of a forest sound; nothing is visible, but the tramp of cavalcades is heard. The noonday is overcast with

* From "The Toilers of the Sea."

sudden night; a tornado passes. Or it is midnight, which suddenly becomes bright as day; the polar lights are in the heavens. Whirlwinds in opposite ways, and in a sort of hideous dance, a stamping of the storm upon the waters. A cloud, overburdened, opens and falls to earth. Other clouds, filled with red light, flash and roar, then frown again ominously. Emptied of their lightnings, they are but as spent brands. Pent-up rains dissolve in mists. Yonder sea appears a fiery furnace in which the rains are falling; flames seem to issue from the waves. The white gleam of the ocean under the shower is reflected to marvellous distances. The different masses transform themselves into uncouth shapes. Monstrous whirlpools make strange hollows in the sky. The vapors revolve, the waves spin, the giddy naiads roll; sea and sky are level; noises, as cries of despair, are in the air.

Great sheaves of shadow and darkness are gathered up, trembling in the far depths of the sky. At times there is a convulsion. The rumor becomes a tumult, as the wave becomes surge. The horizon, a confused mass of strata, oscillating ceaselessly, murmurs in a continual undertone. Strange and sudden outbursts break through the monotony. Cold airs rush forth, succeeded by warm blasts. The trepidation of the sea betokens anxious expectation, agony, terror profound.

Suddenly the hurricane comes down like a wild beast to drink the ocean—a monstrous draught—the water rises to the invisible mouth; a mound of water is formed; the swell increases and the water-spout appears; the Prester of the ancients, stalactite above, stalagmite below; a whirling, double-inverted cone; a point in equilibrium upon another, the embrace of two mountains—a mountain of foam ascending, a mountain of vapor descending—the terrible coition of the cloud and the wave. Like the column in Holy Writ, the water-spout is dark by day and luminous by night. In its presence the thunder itself is silent, and seems cowed.

The vast commotion of those solitudes has its gamut, a terrible crescendo. There is the gust, the gale, the tempest, the whirlwind, the water-spout, the seven chords of the lyre of the winds, the seven notes of the firmament. The heavens are a clear space, the sea a vast round; but a breath passes, they have vanished, and all is fury and wild confusion.

Such are these inhospitable realms.

The winds rush, fly, swoop down, die out, and commence again; hover above, whistle, roar, and smile; frenzied, wanton, unbridled, or sinking at ease on the raging waves. Their howlings have a harmony of their own. They make all the heavens sonorous. They blow in the cloud as in a trumpet; they sing through the infinite space with the mingled tones of clarions, horns, bugles, and trumpets—a sort of Promethean fanfare.

Such was the music of ancient Pan. Their harmonies are terrible. They have a colossal joy in the darkness. They drive and disperse great ships. Night and day, in all seasons, from the tropics to the poles, there

is no truce; sounding their fatal trumpet through the tangled thickets of the clouds and waves, they pursue the grim chase of vessels in distress. They have their packs of bloodhounds, and take their pleasure setting them to bark among the rocks and billows. They huddle the clouds together, and drive them diverse. They mould and knead the supple waters as with a million hands.

The water is supple because it is incompressible. It slips away without effort. Borne down on one side, it escapes on the other. It is thus that waters become waves, and that the billows are a token of their liberty.

THE ATLANTIC TELEGRAPH.*

WELL may the story of the Atlantic Telegraph be termed the romance of modern enterprise. Had it been written as pure fiction it would have been ridiculed as utterly impossible, and its hero would have been looked upon as a most exaggerated conception. The perseverance and moral courage of Mr. Field, the projector, are unequalled in history by any examples save those of Columbus and Galileo; with these his name deserves to be joined as a benefactor of his race.

The project of laying a telegraph under the ocean from Europe to America grew out of the efforts of Mr. F. N. Gisborne to connect St. John's, Newfoundland, with the continent by means of a land telegraph over the island and a swift line of steamers plying across the gulf. Owing to breach of contract by this gentleman's company, his designs failed. In 1854 he came to New York, where he met Mr. Cyrus W. Field, to whom he communicated his plans. At first Mr. Field was unwilling to take any part with him, but afterwards, conceiving the possibility of connecting the two continents, he entertained the project more favorably. Having consulted Prof. Morse and Lieut. Maury, and received encouraging answers, he determined to lay the Atlantic Telegraph. His plan was to gain as coadjutors, ten capitalists, who among themselves could readily raise one million of dollars to be expended in the effort. He succeeded in securing four beside himself. All were men of great wealth, Peter Cooper, Moses Taylor, Chandler White, and Marshall O. Roberts. These determined to prosecute the matter without further assistance, and in the fall Mr. Field, D. D. Field, legal adviser of the new company, and Mr. Chandler White went to Newfoundland, to obtain a charter for the New York, Newfoundland, and London Telegraphic Company. These gentlemen were received with great cordiality by the governor, who, by advice of the council, immediately represented the matter favorably to the Legislature, then in

* History of the Atlantic Telegraph. By Henry M. Field, D.D. New York: Scribner & Co. 12mo, pp. 370. $1.75.

session. This body guaranteed £50,000 in bonds of the company, and granted it fifty square miles of land, with the exclusive privilege for fifty years of laying cables on that portion of the island.

This secured, the company set to work. Their first labor was to construct across the island, from St. John's to Cape Ray, a bridle path, eight feet in width, along which to erect the overland line of telegraph. This was no light matter. No roads existed, the interior of the island was uninhabited, and, as far as had been explored, consisted only of morasses and jungles. But the enthusiasm of the company admitted of no obstacles. Six hundred men were immediately employed, and in less than two years four hundred miles of road were constructed. We have not the space, even if we possessed the ability, to give a just account of this vast work. The difficulties and dangers overcome by the engineers and laborers are surpassed by no modern effort except the Darien expedition.

In the meantime, a submarine cable had been manufactured to connect the island and mainland. In August, 1855, it arrived at Cape Ray, and on the 7th of August the incorporators, with a large party of friends, sailed from New York in the *James Adger* to see the successful completion of the first part. But the company was ignorant of the difficulties before them. The shore line of the cable was fastened, and the vesssel containing the coils set out for the mainland. When forty miles had been paid out a fearful storm arose, and, after a few hours, it was necessary to cut the cable to save the vessel. The *James Adger* returned to New York. Some members of the company favored a dissolution, but others insisted upon another effort. Mr. C. W. Field was sent to Europe; a new cable was constructed and successfully laid in 1856.

Thus far all was success; but the million of dollars, originally regarded as sufficient to cover all expenditures, was wholly spent. The company felt unwilling to shoulder the remaining responsibility, and Mr. Field was sent to England to awaken public interest there. At first his reception was cold, but the experiments of Profs. Morse, Thomson, and Fairbairn proved the feasibility of working a cable two thousand miles long, and the soundings by Lieut. Berryman had proved the existence of an extensive plateau on the bed of the ocean along the proposed route. Public opinion changed. The government became interested, and the Atlantic Telegraph Company was formed, with a capital of £350,000 divided into three hundred and fifty shares of £1,000 each. Of these all were taken in Great Britain, excepting eighty-eight which were taken and paid for by Mr. Field, who thereby gave evidence of his confidence in the undertaking. To this company the charter of the New York, Newfoundland and London Company was made over.

Being now in working order, the company, in December, 1856, contracted for the manufacture of the cable, one-half being given to Messrs. Glass, Elliott & Co., of London, and the other half to Messrs. R. S. Newall

& Co., of Liverpool, the whole to be completed by the first of June following, and ready to be submerged in the sea.

In the meantime the British public had viewed the project with the utmost favor. They had granted an annual subsidy of £14,000, and had promised two of the largest vessels in the navy to aid in laying the cable. Immediately upon his return to America, Mr. Field went to Washington, where he laid the matter before the authorities, seeking their approval. Through Mr. Seward a bill, offering privileges similar to those granted by the British Government, was presented to Congress. Contrary to the expectations of its friends, it met with extreme opposition, and passed by a majority of *one*. With great difficulty it was worked through the House, and was signed by President Pierce on the day preceding his political death. An annual subsidy of $70,000 and the use of the two largest vessels in the navy were granted.

Every thing was now satisfactorily arranged. The noble vessels, Niagara and Susquehanna, were designated from the American navy; the Agamemnon and Leopard, from the British navy. Mr. Field was recalled to Europe, where, as general manager of the new company, his services were required. On the 22d day of June, the Niagara and Agamemnon began to stow away the cable, each taking half, and so heartily did the work progress that in about three weeks thirteen hundred miles of the coil were safely stowed in each vessel. The event was duly celebrated by a gigantic festival given to the sailors and workmen, with their wives; while the officers of the vessels were regaled at a banquet prepared by the stockholders.

The labor and feasting being ended, the Niagara and Susquehanna left Liverpool the latter part of July, and steamed down to Queenstown, where they were joined by the Agamemnon and Leopard. Here the cable on the two ships was joined and tested from end to end, and found perfect. This inspired fresh hopes for the success of the expedition, and in high spirits the vessels bore away for the harbor of Valentia. Contrary to the advice of the engineers, it was determined to lay the whole cable in a continuous line from Valentia Bay to Newfoundland. The Niagara was to lay the first half from Ireland to the middle of the ocean, where the end would then be joined to the other half on the Agamemnon, which was to lay on to Newfoundland.

At Valentia, as at Liverpool, there was a time of feasting which continued for several days. On Wednesday, August 5th, the shore end was landed by the American sailors from the Niagara, and was received with the greatest enthusiasm, the Lord-Lieutenant and other nobles seizing the rope and helping to drag it on shore. On the morning of the 7th the vessels set sail, but were checked by an accident which detained them another day. Before they had gone five miles the heavy shore end became entangled in the machinery and parted. It was successfully underrun and

spliced, when the vessels again moved. For four days all went well, but on Monday night the cable ceased to work. The electricians gave it up; the engineers were about to cut it and wind it, when the current returned. Joy again prevailed over the ship, and a few crept to their couches; but before morning these hopes were finally destroyed. The cable, it seems, was running out too freely, probably because of a powerful undercurrent. To check the waste, the engineer applied the brakes and stopped the machine. A heavy strain upon the cable in the water resulted; the ship was in the trough of the sea; as she rose the pressure was too great, and the cable parted.

On the following morning a consultation was held. It was found that 300 miles had been paid out, and that only 1,847 miles remained. This was adjudged insufficient to warrant a continuation of the enterprise, and it was abandoned. Mr. Field hastened to London, there to meet the directors. Though disappointed, these men were not disheartened, and they felt no disposition to abandon the scheme. They had learned the defects of their machinery, and also the difficulties of the project. They set themselves to prepare against these, and determined to make a second expedition in the following year.

The lost portion of the cable cost the company £100,000. But, undismayed, the directors gave orders for the construction of seven hundred miles of new cable, that in case of a similar disaster there might be a surplus, and the enterprise need not be again suspended. The American and British governments again promised their assistance, and Mr. Everett, chief-engineer of the Niagara, invented a new paying-out machine, whose brakes were less cumbrous and more regular in their movements than those employed on the first expedition. The cable was reshipped at Plymouth. This process occupied the whole of April and part of May, the line being much longer than before. The cable was now tested. It was perfect, and Mr. Everett's paying-out apparatus worked admirably.

On June 10th, 1858, the vessels sailed from Plymouth. For three days the weather was excellent, but on the 13th the wind began to blow. From this time until the 20th the storm steadily increased in fury. On the 20th, the coil on board the Agamemnon shifted, and the vessel was in danger of foundering. But all things have an end, and on Friday, the 25th, the vessels met in mid-ocean, the cable was spliced, and they separated, the Niagara for Europe, the Agamemnon for America. Before the steamers had gone three miles the cable broke, having become entangled in the machinery on the Niagara. A splice was again effected. "Forty miles had gone," says a writer on the Agamemnon, "when suddenly Prof. Thomson came on deck and announced a total break of continuity: the cable had parted, and, as was believed at the time, from the Niagara." In a moment a blue light and signal gun from the Valorous, consort of the Niagara, showed a similar belief on that vessel. When the

ships rejoined it was found that at nearly the same instant the operator on each vessel discovered a break about ten miles from his ship. There was now no time for inquiries respecting this mysterious event. Once more a splice was made, and the steamers again separated. This was on Monday. Two hundred miles were paid out, when, suddenly, the cable again parted, this time about twenty miles from the Agamemnon. There being no hopes of success, the cable was cut off from the Niagara, and the vessels reluctantly bore away for Queenstown.

The directors met at London. A feeling of the deepest discouragement pervaded the meeting. Some were for selling the cable and totally abandoning the enterprise. But Mr. Field was obdurate. "The ships are still here, and we have cable enough to cross the ocean. Let us make one more attempt." Prof. Thomson still maintained that the enterprise was feasible. Their views prevailed, and the majority of the directors determined to make one more attempt. The vessels were immediately put in condition for a new expedition, and in five days, on July 17th, the squadron was again under weigh. On July 29th, the steamers met in mid-ocean, effected a splice, and moved in their respective directions. On August 5th, the Niagara reached Trinity Bay, Newfoundland, in safety. On the same day the Agamemnon entered Valentia Bay, having burned her masts and all the spare timber on her decks for fuel, her coal having failed.

The previous failures of the enterprise had rendered Mr. Field an object of public derision. The present success made him an idol. The news of the completion of the cable caused a wild burst of joy throughout our country. New York city held great meetings, had an immense procession of military and the trades during the day, and at night a brillant torchlight procession of firemen, closing the whole with a grand pyrotechnic display. The final scene of this display, though not on the order of exercises, far excelled the rest. The City Hall took fire, and was damaged to the extent of $30,000.

But human hopes are vain. On the very day of this gigantic celebration the Atlantic cable gave its last throb. When this news reached the public the depression was in exact proportion to the elation. Mr. Field was abused on all sides as a deceiver. Many denied that the cable had ever worked, and asserted that the despatches received never passed over the wire; they maintained that the whole was a stock-jobbing affair to enable Mr. Field to sell his worthless stock. How true this assertion was, Dr. Field shows in his work. Mr. Field sold only one of his eighty-eight shares, preferring to hold the rest. That the cable did work is most satisfactorily proved by Dr. Field, who gives in full the various telegrams, and by comparison shows that they could never have been compiled by guesswork. It is certain that at least two despatches were transmitted, countermanding orders for transportation of troops, whereby £60,000 were saved to the British treasury.

The failure of this cable was a fearful disaster to the enterprise. Still Mr. Field did not despair. Application was again made to the British Government, but with only partial success. The public were called upon to give means for renewal of the undertaking, but no money was forthcoming. For five years the project seemed dead. Meanwhile, scientific men were applying tests and making improvements; marine cables were being laid in various parts of the world, and public confidence in an Atlantic Telegraph began to revive. Mr. Field still urged his hobby. At length, in August, 1863, the public feeling was so favorable that, although the funds were not in hand, the Board of Directors advertised for a new cable. The contract was given to Messrs. Glass, Elliott & Co. Every thing seemed prosperous, and Mr. Field, in high spirits, was about to return to America, when news came that there was no money, and further prosecution of the enterprise must be deferred.

"Hope deferred maketh the heart sick." Mr. Field was sick. £600,000 were required for the new cable. The old stock company was without vitality; unless new blood could be infused, the enterprise must fail hopelessly. With characteristic energy he renewed his efforts. He first applied to Mr. Thomas Brassy, who offered to take one-tenth of the whole. Others followed. The Gutta Percha Company, and Messrs. Glass, Elliott & Co., combined to form the Telegraph Construction and Maintenance Co. Thus far only £285,000 had been subscribed. This company offered to take the rest, £315,000. They did more: they took £100,000 of the Atlantic Telegraph Company's bonds. The problem was now solved. The Atlantic Telegraph was to be a reality.

A fresh difficulty was now encountered. The new cable was 2,700 statute miles long, and was much more bulky than either of the former cables. Where could it be stowed? Providence had caused the Great Eastern to be built, apparently for this purpose alone, as she is useless for any other. This vessel was then for sale. Her fitness being evident, some of the gentlemen most active in reviving the cable combined to purchase her. She was immediately put at the service of the Atlantic Company. A commander for her was found in Capt. Anderson, of the Cunard steamer China.

The work now went on with speed. Mr. Field, with a light heart, returned to America, but early spring found him again on his way to Europe. At length, on May 29th, the work was finished, and on July 15th the great ship bore away to Foilhommerum Bay, about six miles from Valentia. Here the shore end was fixed, and the Great Eastern set out on the expedition, Sunday, July 23d. For two weeks every thing went well. Within six hundred miles of Newfoundland, and within two days' sail of shallow water, they felt safe. But on Wednesday the signals ceased. Down on the floor of the sea some minute fault had occurred. The men began to wind in the cable; but while they were thus engaged

the steamer drifted and chafed the cable, so that as the injured part touched the wheel it parted, and twelve hundred miles were lost. Canning, engineer-in-chief, declared his intention to grapple for it though it lay two and a half miles below the surface. Three times the cable was secured, but each time the grappling tackle gave way. At last the rope broke, and the expedition was compelled to return.

The expedition for 1865 was over. It did not succeed, yet it was not all a failure. It proved that a cable could be laid; it proved that if the cable should break, it could be recovered by proper grappling appliances. No one was discouraged. A new attempt was immediately ordered. Encouraged by the partial success of 1865, the Telegraph Construction and Maintenance Company offered to construct and lay the cable, to be paid only in case of success.

Legal difficulties having arisen respecting the issue of preferred stocks by the Atlantic Telegraph Company, it was thought best to organize a new company to share the profits with the old one. The new association was termed the Anglo-American Telegraph Company, capital £600,000. It contracted with the Atlantic Company to construct and lay down a cable in the summer of 1866, for doing which it is to be entitled to a preference dividend of twenty-five per centum. The whole capital of this company was secured in fourteen days, the subscriptions varying in amount from £500 to £100,000.

It was already March 1st, only four months remained in which to manufacture 1660 nautical miles of cable and prepare for sea. But the obstacles were cleared away, and all went to work with great vigor. The cable was similar to that of 1865, the machinery was strengthened, and the grappling rope could bear a strain of thirty tons. The steamer herself was cleaned, for in her many voyages her hull had become fouled and was covered with seaweed, muscles, and barnacles to a thickness of two feet. Her boilers were scraped, her engines inspected and strengthened, so that she might be well prepared. On the last day of June every thing was in readiness, and the great ship sailed for the Irish coast. The shore end was again laid, the fifth time, the splice was effected, and the squadron soon disappeared from the coast. The rest is of yesterday. A voyage of uninterrupted success. On the 29th of July, by that cord we in America learned of peace in Europe.

And this is the history of the cable. A monument to American skill and energy. Morse invented the telegraph, Field laid it on the bed of the ocean.

In this paper we have given but a synoptical narrative. Dr. Field's "History," from which we have drawn the facts, is full of thrilling details. It is thoroughly reliable, as the author is brother to Mr. C. W. Field, the projector. It contains much general information concerning the geography of the sea, which, in its connection with the main subject, is of great interest.

AMERICAN EDUCATIONAL MONTHLY.

OCTOBER, 1866.

How the Interests of Education are Advanced.

THE Teachers' Association of this State met at Geneva, July 31st, for the purpose of advancing the interests of Education. The discrepancy between the purpose avowed, and the means adopted to accomplish it, deserves a passing notice.

In the reports of the Association we hear very much of "attractions," "brilliant performances," and the like, but very little of earnest discussion, or hearty endeavor to grapple with the practical questions which should have engaged every attention. "Considerable music was interspersed," reports say, "but the most welcome treat of all was the reading of Miss Potter." In the evening, Linden Hall was crowded to overflowing, Miss Potter being again "the main attraction." There were besides, Mrs. Randall, and the "still further attraction of singers, male, female, and professional."—Truly, we hope the teachers of New York are not responsible for the foregoing classification of the singers who so kindly entertained them.—During the evening, poems were read; professional readings delivered; an operatic air was sung; and, probably, as an interlude to enable the "attractions" to recover breath, Dr. Miller read an Address on our Common Schools. On the following day, the Geneva Select Choir, and a choir of girls, "entertained the assembly" with some of their choicest songs; Prof. Mills "delighted the Association" with a performance on the harp; and Miss Potter and Mrs. Randall further advertised their elocutionary proficiency.

That all these exercises had a primary reference to education is evident from the titles of the various pieces. Prof. Baker, upon invitation, gave a "brilliant performance" of "True love can ne'er forget;" Miss Potter read "High Tide;" and Mrs. Randall, "The Vagabonds."

These intellectual and artistic entertainments were, no doubt, very agreeable; but when we compare such misuse of time with the serious discussions and business-like action of the Association of School Commissioners and Superintendents, which met at the same place earlier in the week, the contrast is any thing but creditable to the Association of Teachers. If teachers seek relaxation and amusement, and choose

to assemble as teachers for that purpose, they have a perfect right to do so; but we protest against their meeting in the name of the Association of the Teachers of the State of New York, ostensibly to discuss important educational questions, and then making such meeting solely the occasion of mutual admiration and personal display. We do not wish the world to look upon teachers as incapable of discussing intelligently the questions to which their profession gives rise; or less interested in the details of their calling, than jurists, physicians, and clergymen are with theirs. Members of these professions do not find it necessary to engage the services of singers and dramatic performers to insure a respectable attendance upon their conventions. And it is a disgrace to the teachers of New York that the Association of the Teachers of the State does not possess sufficient professional spirit and ability to sustain its conventions without so much extraneous and comparatively frivolous aid.

The Beginning of Our Common School System.

IN his message to the Legislature which met in Poughkeepsie, January 6, 1795, Gov. George Clinton reminded that body, that while provision had been made for the endowment of colleges and other seminaries in which the higher branches of learning were taught, no legislative aid had been given to *common schools*, and he recommended that provision should be made for their improvement and encouragement.

This was the first official movement made in this State in behalf of these institutions—institutions upon which, under God, depends the preservation of the rights and liberties of the people of these States. Thus speaks the chronicler of those times.

The Legislature passed a law appropriating annually, for five years, the sum of fifty thousand dollars. The act further provided, that a sum equal to one-half the sum received from the State by the several towns should be raised by a tax and added to the appropriation.

From such beginnings our *Common School System* was developed. This happened seventy-one years ago—threescore years and ten—the allotted life of man; and many an old man of to-day remembers with what joy the news was received in each little hamlet. And they will tell us how munificent they deemed the bounty of the State, and what visions of winter schools, reached through miles of long tramping, filled the imagination, and begot all sorts of vague yearnings.

Since those times, what wonderful accessions have been made to the general mass of information ; what changes in educational systems ; how has wealth increased and altered all the old relations and long-established ways of business ! The boy of to-day has the culture of the man of yesterday ; the girl surprises the woman with her wonderful advancement, and knowledge of things unknown in her girlhood, until the mother doubts that this is a child of her begetting. But we are sometimes led to think that this is not all improvement, and that what we are pleased to style culture is, to a certain extent, mechanical expertness. We sometimes think that we may have a vast deal more learning, but, at the same time, less earnest thought ; and earnest, well-directed thought, makes the man.

Those were the days of Jay, of Livingston, of Josiah Ogden Hoffman, of Ambrose Spencer, of Samuel Jones, of Stephen Van Rensselaer, of Yates, of Philip Schuyler, of Rufus King, of Alexander Hamilton, and of many others whose integrity and patriotism should put to shame the time-servers and trimmers of to-day.

They were men who endeavored earnestly and truly to carry out those two precepts of that greatest of men, Plato ; " first, to make the safety and interest of their fellow-citizens the great aim and design of all their thoughts and actions, without ever considering their own personal advantage ; secondly, so to take care of the whole collective body of the republic, as not to serve the interests of any one party to the prejudice or neglect of all the rest ; for the government of a State is much like the office of a guardian or trustee, which should always be managed for the good of the pupil, and not of the persons to whom he is intrusted ; and those men who, whilst they take care of one, neglect or disregard another part of the citizens, do but occasion sedition and discord."

But though men have grown mechanical ; though individual endeavor has lost its potency ; though processes have taken the place of thought ; though men are more guided by selfish interests—yet a great work has been effected. Information has become as necessary as the air we breathe ; and every day the feeling is growing stronger, that ignorance and self-government cannot go hand in hand. Woman is reaching forward to the higher functions of her nature, and man is every year gaining a deeper insight into the laws that should govern human actions and relations.

We honor thee, first governor of the Empire State, among the great names of those times—and they are great for all time ; not least on the scroll of honor shall thy name be written.

EDITORIAL MISCELLANY.

WE purpose from this time to devote a few pages of our Magazine to the consideration of mathematical problems, questions in English analysis, and such other kindred matter as may be of use to the teacher.

Teachers having difficult questions to propose, or elegant and peculiar solutions of problems, will please direct to

MATHEMATICAL EDITOR,
AMERICAN EDUCATIONAL MONTHLY,
430 Broome Street, New York city.

PROBLEM I.

Demonstrate that, if upon the three sides of a right-triangle, any three similar figures be described, the figure described upon the hypothenuse is equal to the sum of the other two.

PROBLEM II.

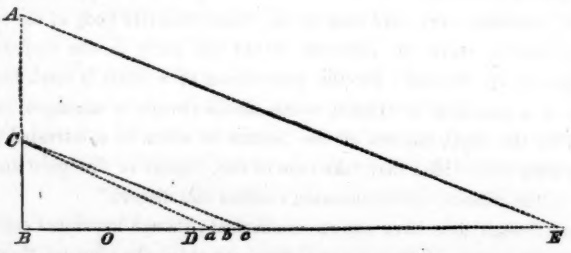
Demonstrate mathematically that the minute-hand of a clock must overtake the hour-hand.

PROPERTIES OF NUMBERS.

Every square number is either divisible by 5, or will leave for a remainder plus or minus 1.

Every cube number is either divisible by 7, or will leave for a remainder plus or minus 1.

Geometrical construction for a very close approximation to the circumference of the circle.



Let BD be the diameter of a circle; erect at its extremity B, the perpendicular BC, and make it equal to the radius; prolong BD, and make $Da=ab=bc=$ one-fifth of the radius; draw aC and cC, and make $BA=aC$. Now if we draw from A the line AE parallel to cC, BE will be only one-half millionth part smaller than π.

DEMONSTRATION.

As BD=1 $Ba=1.1$ $Bc=1.3$

$Ca^2=Ba^2\times BC^2=\frac{146}{100}$ and $Ca=\frac{\sqrt{146}}{10}$

BC : Bc : : BA : BE or $\frac{1}{2}$: $\frac{13}{10}$: : $\frac{\sqrt{146}}{10}$: BE from which

$BE=\frac{13\sqrt{146}}{50}=13\sqrt{0.0584}=\sqrt{9.8696}=3.14159.$

EDITORIAL CORRESPONDENCE.

GERMAN GEOGRAPHICAL PUBLICATIONS.

NUREMBERG, August 1, 1866.

GERMANY, though pre-eminently a land of books, is not a land of school-books, for, as I have said in previous letters, the method of giving instruction is so different from that employed in American schools, that books are almost unneeded. Whatever can be taught by familiar lectures, is communicated to the child's mind in that way, and the Germans prefer this mode of teaching to that in vogue in America. There is an abundance of reading-books, because that is a department which can not be taught by oral communication. But the great variety of school histories, geographies, arithmetics, algebras, and grammars, which form a conspicuous part of the stock of an American bookstore, is not found in Germany; or if it be too strong an expression to say not found, let me word it, not thrust into the foreground as with us. Little text-books, in pamphlet form, there are indeed; but they are as unpretentious as possible, and bear the humble name of Leitfadens, or Rudimentary Hints. The so-called Hand-books which the German press issues are not works for the pupils of the schools, but for the use of the teachers, and contain the materials which are drawn upon to furnish the familiar lectures of the class-room. In one word, the method of instruction employed in our theological seminaries is adopted in all, or nearly all, the schools of Germany; a lecture is given, the pupils take notes, and answer questions the next day upon the instruction imparted. On some accounts this is a good system; it is better at any rate than that of committing the words of a text-book to memory, and repeating them by rote, in the manner prescribed in some schools.

There is one class of text-books known in which Germany excels, and it is to them that I propose to devote a part at least of this letter. It is the Atlases which are used. The teacher may dispense with manuals of descriptive geography, but he can not dispense with the aid of good maps. The method of instructing in this department has called out two classes of works, which are in their respective ways among the most perfect that are known—the Geographical Hand-books, which are to be used by the teachers, and the Atlases, which are to be used by the scholars. Of the Hand-books I do not propose to speak at any length, excepting to say that there is not in the United States or in England, so far as I am aware, any thing so perfect in its way, as the Hand-books of Daniel and Klöden. They are each in three volumes, of about eight hundred pages to the volume, and form an admirable and thoroughly digested summary of all matters connected with geography—not executed in the manner of a gazetteer, but thoroughly worked out in a natural and not an alphabetical order. The authors are thorough geographers. I am personally acquainted with both Klöden and Daniel, and know that they are conscientiously giving the best years of their lives to those admirable manuals, and are keeping the new editions level with the advance of geographical science.

The reader is probably not aware of the fact, that the most of the maps which he sees are mere copies of maps previously existing. Sometimes

the copy is executed with much more skill than the original; sometimes the engraver adopts a kind of drawing and of lettering which would deceive any one who should not carefully compare the copy with the original; but the fact remains, that almost all maps which are familiarly known to the public are mere transcripts of others previously existing. The preparation of the first copy of a map is a task requiring the utmost patience and skill. The statistics in the possession of government bureaus, the records of travelers, and a thousand-and-one documents must be consulted, before a reliable original map can be wrought out. Item after item must be gathered where it can be found. Step by step it is filled in, one source yields one fact, and another source another, till at length all is done. It is in this way that the maps published by Justus Perthes, of Gotha, and Reimer, of Berlin, are prepared. Some of the most celebrated maps in the world are merely transferred from those brought out by these two houses. I was assured in Gotha last summer that even the celebrated *Physical Atlas*, published in Edinburgh by no less celebrated a geographer than Mr. Keith Johnston, was, in its first edition, a reproduction of Berghaus' original, with English instead of German names. This was some years ago, however, and now Mr. Johnston constructs original maps, some of them of equal excellence with the German ones.

I gave the reader, a few months ago, a brief sketch of the gentlemen who are at the head of the great Gotha house, known throughout the world as Justus Perthes'. I hoped then to give an account of the system of works which they publish, and which are intended for the use of scholars of every grade of acquisition. I will not pretend to give a catalogue of all the books published by them, but only of their best atlases. These cover the whole field; there is hardly a single want which some of their works do not meet. These are all original; and the gentlemen who are engaged in preparing them are among the most competent geographers of our time.

Let me briefly allude to some of the atlases published by Justus Perthes.

First, because relating to the earth in its more general characteristics, and also because the most expensive and elaborate work, is Berghaus' *Physical Atlas*. This is the embodiment of a lifetime of scientific labor. Prof. Berghaus has always been the intimate friend of such men as Humboldt and Dove, and has incorporated the results of their labors in this great work. A very slight acquaintance with German makes the book available to American students, and no geographical library is complete without possessing it. Yet it is an expensive work, and would cost not much less than a hundred dollars in America. Prof. Petermann has, however, worked out and published a little volume, based on Berghaus', and which can be had for a small sum. It is published in the English language, and is a really valuable work—on the whole, the best small physical atlas that I know. The two works of Berghaus and Petermann entirely cover this field of Physical Geography.

The next one to be mentioned is Historical Geography. And in this department the Gotha house publishes a work utterly without a rival. This is the celebrated work of Spruner, known all over Europe, and found in the chief American libraries. The *Historical Atlas* allows the student to take any part of the world's history, and to have before him the configuration of the country about which he is reading, not as it is at present,

but as it was then. Is he looking into the colonial history of North America? He spreads out before him, not a map of the Union as it is, but of the country as it was when possessed by the English, French, and Spanish colonies. Is he reading the history of the German Reformation? He turns to the map of Central Europe in the sixteenth, and not in the nineteenth century. Is he following the victorious steps of Genghis Khan, Charlemagne, or Frederick the Great? He turns to the maps of Asia and Europe which present the political configuration of their times. I have not *Spruner* before me as I write, but if I recollect correctly, there are above seventy-five maps in the whole series, commencing with the very dawn of history, and continuing down to the present time. They have all been carefully drawn up by Major Spruner, an accomplished Bavarian scholar, and cost in America not far from twenty-five dollars.

Mr. Perthes has published two abridged editions of this work, one in English and one in German. The latter can be imported for about three dollars, the former for about five. The German one is much the best, for, in accordance with a hint given by an Englishman, the one intended for England leaves out, for the purpose of distinctness, the lines of mountains; and this makes it impossible for the reader to trace the intimate connection between the history and geography—a connection, I need not say, more markedly determined by the lines of mountains than by almost any other single element. Prof. Dittmar has published an admirable work of this character, small and yet excellent. The substance of this work will, ere many months, be in the possession of American scholars—the Messrs. Appletons having now in the hands of the engraver a selection made by myself from Dittmar's work, with the addition of some of Quin's and Smith's best maps. But no work will be likely to supersede the great work of Spruner; and, although too expensive to be generally owned by private readers, it ought to be in all public libraries.

Next to a Physical and Historical Atlas comes a large and authentic Descriptive Atlas of the world at the present time. This should be to the readers of newspapers what Spruner's should be to the readers of history. And such a work is the admirable atlas known by the name of *Stieler*, and published also by Justus Perthes. Mr. Stieler, who began the work more than a quarter of a century ago, has been dead several years, but Major Stulpnagel, the younger Berghaus, and Petermann have risen to take his place, and a new edition is published every year. There are, I think, about eighty maps in the work, all of them worked out from original materials, and changed every year with the advancement of geographical discovery. The engraving of this work is by no means remarkable for elegance, and a reader not in the secret of the painstaking care which distinguishes it, would have no conception of the value of the Stieler maps. They are stolen, however, in England, France, and America, as well as Germany; sometimes the copy is engraved with twice the elegance of the original, but without a trace of originality, excepting where the spelling must be adapted to the needs of a foreign tongue.

There are several smaller editions of the Stieler maps, consisting of more or less of those in the larger one bound up together. I wish these were better known in America, for they are so thorough as to be far more valuable than the most of the atlases which have currency in the United

States. I ought to say that Stieler's work is published at Gotha in the French, Italian, and Finnish languages, as well as in German. It is very much to be regretted that the house of Justus Perthes does not establish an agency in America to circulate their publications with us; an English edition of Stieler could hardly fail to meet with general success.

Still another want is met in the admirable *Ancient Atlas*, prepared by Dr. Menke, and adapted for use not only in Germany, but throughout the world. The classical names being retained, the work is just as well fitted for American as for German schools. The first part of Spruner's work is, in fact, an ancient atlas; but Menke's work is better adapted by its size for young men in the academy or college. I do not recall the exact price, but am under the impression that it can be imported for about three dollars of our currency.

Justus Perthes publishes also a small *Pocket Atlas*, which is just what its name specifies, local maps of Germany, of great excellence, and a series of geological maps. Two other great undertakings which this house carries on are Sydow's wall maps and the school atlases prepared by the same high authority. Major von Sydow is well known in Berlin as the most influential member of the geographical direction of the School of War, but all Germany knows him by his excellent wall maps and school atlases. The former are executed in the same style adopted by Prof. Guyot, although our countryman has by no means copied the German maps. Sydow's school maps are simple and chaste in execution; their chief excellence, however, is their accuracy, and, indeed, so far as reliability is concerned, the Gotha maps may always challenge criticism.

Can the reader think of any field not covered by some one or other of these various sets of maps? There are yet two to which I will but briefly allude. Dr. Grundemann is devoting five years to an *Atlas of Missions*, which will be published in both English and German. It was begun about a year ago, when I was in Gotha, and I had the pleasure of becoming acquainted with Dr. Grundemann, and of finding him not only a correct Christian man, but a man thoroughly competent to construct a map which shall clearly lay down the field of operations directed by all existing missionary societies, however small.

Another important work carried on by Justus Perthes is the monthly journal, edited by the great geographer Petermann, and devoted to recording the progress of discovery. It is too well known to require more than a single word of comment, since its circulation is the largest of any scientific journal in the world. Every number contains one or more maps, and no one can follow the advance of geographical science from month to month who does not make himself familiar with the columns of Petermann's *Mittheilungen*.

When to these are added such maps as Van der Velde's of the Holy Land, and the like, there is an accumulation, as the reader will see at once, which it would be impossible to rival. The house of Justus Perthes covers the whole geographical field, and should any new want arise, they will at once meet it. The establishment has been in operation more than fifty years, but it has been constantly expanding in a healthy manner, and now stands stronger than ever. Every work which they publish is as perfect as pains and high scientific qualifications can make it.

W. L. G.

TEACHING FORTY YEARS AGO.

Union Hill, New Jersey.

MR. EDITOR—I began to teach school more than forty years ago, in an old log school-house sixteen feet by eighteen, with a fireplace so large, that it would take a back-log six feet long and eighteen inches in diameter. With a large fore-stick and plenty of other wood, it would make it too hot for the boys to sit on the ends of the back-log! Primitive times those were. The trustees were seldom elected; they held over until called together by something of importance, like the advent of a new teacher, who, if he could write a tolerable hand, could read, and cipher a little, was directed to go round the neighborhood and find how many scholars he could get at one dollar and a half or two dollars per quarter, and board around. Primitive farmers were they in those days; many before harvest had to buy their bread and seed. In my experience boarding round, I passed through many phases of society among the first settlers. Some lived very well and used cups and saucers, knives and forks. Others would have all the meat cut up in small pieces on an earthen dish placed in the middle of the table; each one had a fork to dive in and dip in till all were satisfied. With an onion and a little weak tea, the meal was ended.

Many of the descendants of those good people now live in splendid houses, and have as good farms as any in New Jersey. This, in 1819, was before canals or railroads had opened avenues of trade or travel. In course of time, the geologist informed the people of limestone and iron ore; people began to lime their land, and now no finer farms, nor more beautiful scenery, nor better school-houses can be seen than on the mountains of Jersey. Less than a mile from Budd's lake stands a good farm-house where, in 1820, I experienced some of the pleasures of boarding round. Frequently I looked upon the stars twinkling upon me, through chinks of the logs, and at one time, on a Sunday morning, when the father of the present owner called to us in the upper chamber, "to get up to breakfast," I awoke with six inches of snow all over the bed and over the floor. Primitive times those were! Winters were different from now. The snow covered the fences with a crust strong enough to bear the sled on which the farmer's sons would draw me to the school-house.

The object of this communication is to show that Education has improved and advanced with the improvements of other branches of industry—arts, manufactures, commerce, or whatever has added to the wealth and grandeur of the country. The teachers of those days were generally old men, too old to labor, but considered able to teach school. Very little was required of a teacher. He passed through no examination other than a few ordinary questions proposed by some trustee. Spelling, reading, writing, arithmetic, were generally all that was requiste, and, indeed, few persons of an enterprising mind would teach school; only the old, the lame, and the lazy. In early life, the light broke in upon my mind that my destiny was to teach. I began to qualify myself for the arduous duties of the profession; but to whom could I apply for instruction? All with whom I had an acquaintance knew no more than I did. How I succeeded (without assistance) and what was my method of teaching, I hope to give in a future communication.

TEACHER.

EDUCATIONAL INTELLIGENCE.

EASTERN STATES.

VERMONT.—The State Agricultural College having been united with the State University, provision will be made for receiving young men, who are desirous of pursuing the course of studies contemplated by the late act of Congress.

—The thirty-seventh annual meeting of the American Institute of Instruction commenced at Burlington on August 7th. During the first day a number of addresses were delivered on various topics of minor importance, and in the evening Mr. M. T. Brown delivered a lecture on "Reading as a Fine Art." An interesting discussion upon "The Place of Classic and Scientific Studies in a Liberal Education" was held on the second day. Object teaching was also brought forward, and a practical illustration given by Miss Seaver with a juvenile class of twenty. Mr. Calkins, of New York city, explained and defended the system. Education and Reconstruction came in for a share of consideration, and the condition of the Freedmen was discussed. No important business was transacted, and the Institute adjourned on August 10th.

NEW HAMPSHIRE.—The following gentlemen have been appointed trustees of the Agricultural College by Dartmouth College: President A. D. Smith, Gov. F. Smyth, Hon. J. A. Eastman, and ex-Gov. A. Colby. The five trustees to be appointed by the State have not yet been designated.

—The ground for the gymnasium at Dartmouth was broken on July 22d. George H. Bissell, of New York, gives $24,000 for its erection. The subscriptions toward the Alumni Hall amount to $8,000.

—MASSACHUSETTS.—Amherst College has been quite fortunate. The gifts of Dr. Walker reach $175,000, and other benefactors swell the aggregate to a much larger sum. Several new buildings are contemplated. The salaries of the professors have been increased. The new freshman class will number about eighty, and will be the largest that has ever entered the college.

—The total available funds for the Harvard College Memorial Hall now amount to $223,000. $27,000 more are required.

—At a meeting of the Alumni of Wesleyan University it was stated that the offer of Mr. Isaac Rich of Boston, to give $25,000 to erect a library building, provided other friends of the University would give as much more, had been accepted, C. C. North, Esq., of New York, having advanced $8,000; $3,000 of it being an absolute gift, and the remainder a pledge that he would stand in the gap to that amount if the friends generally proved a little slow in meeting Mr. Rich's challenge.

CONNECTICUT.—Hartford is about to enjoy a free library. The late Daniel Watkinson bequeathed $100,000 as a fund, the interest of which was to be applied to the purchase of books for this library. About 15,000 volumes having been procured, the library will soon be open to the public.

—Mrs. James B. Colgate, of Yonkers, N. Y., has offered $25,000 to the Baptist Literary Institute at New London, on condition that $75,000 be added to the amount by other friends of the institution.

RHODE ISLAND.—The Rhode Island Institute of Instruction, T. W. Bicknell, Esq., President, hold their session from the 10th October to the 13th, at Pautucket; the programme of exercises to consist of addresses, lectures, discussions, practical teaching, and music. This will be the only session of the kind held this year, and its directors hope for an interesting series of meetings, and a large attendance.

—The City of Providence has raised the salaries of its teachers. The High-school teachers receive $1,850 and $1,800, and the grammar masters $1,800 instead of $1,600 and $1,500, the former salaries. Assistants in grammar-schools, principals in intermediate schools and female teachers in the High-school, receive fifty dollars advance of year's salaries—an increase of twenty per cent. on the whole.

—Professor James B. Angell, formerly Professor of Modern Languages in Brown University, and recently editor of the Providence *Journal*, was inaugurated, in August, President of Vermont University.

MIDDLE STATES.

NEW YORK.—The Alumni of Hamilton College are endeavoring to raise $25,000 for a library hall. Silas D. Childs, of Utica, lately deceased, left by his will $25,000 to found a Professorship of Agricultural Chemistry and $5,000 to purchase necessary books and apparatus for the same.

—$35,000 have lately been given to Genesee College.

—The $100,000 subscription for Rochester University has been completed by a gift of $25,000 by Mr. T. H. Harris of New York.

The Alumni of the University of the City of New York have succeeded in accumulating a considerable amount towards founding an alumni professorship. The full amount, $40,000, will probably be secured within three years.

—The State Teachers' Association met

at Geneva on July 31st. The following resolutions were adopted:

Resolved, That it is the duty of the State to provide for the free education of all the children within her borders, by the establishment of a system of free-schools, from the primary school to the university.

Resolved, That a judicious law should be enacted and enforced for the prevention of truancy and irregularity of attendance upon the school.

Resolved, That this Association recommend the formation of Academic departments in the Public Schools of this State, in all cases where the number and advancement of the pupils shall render it practicable.

Resolved, That the number of school hours for the younger children in our schools should be lessened, and that we recommend frequent recesses, and the most ample provision for healthful recreation.

Resolved, That we commend the acts of the Legislature, at its last session, in relation to Normal Schools, and heartily approve of all the provisions of law adopted by it for the formation and support of such schools; and, further, that we urge upon the Board of Commissioners appointed for the location of such school the importance of acting decisively upon the subject at as early a day as shall be practicable.

Resolved, That this Association commends the action of the Legislature in making appropriation for the support of teachers' institutes, and that in our judgment the appropriations for such purpose should in the future be very largely increased.

Resolved, That the salaries of school commissioners should be largely increased, and that the entire time of those officers should be devoted to the specific duties of their office.

Resolved, That the practice of paying our teachers, especially our female teachers, so meagerly, is due in a great degree to the usurpation of the post of instruction by so many young persons of insufficient qualifications, who underbid those of culture and experience, and that we urge upon examining officers the erection of a higher standard in the examinations, and a more rigid enforcement of its demands.

Resolved, That we approve of the establishment of a National Bureau of Education, and that a committee of three be appointed to prepare a suitable memorial addressed to the Senators and Representatives of this State, in the national Congress, urging their support of the measure.

Resolved, That we recommend teachers to use their influence to promote conventions of school officers and parents, on behalf of public instruction.

Resolved, That while we would encourage Special Education for the purpose of more fully preparing our youth for usefulness in the various fields of active duty, we do nevertheless most sincerely and decidedly deprecate the growing tendency of the times toward Special education, to the neglect of the regular and systematic training in all the branches of a liberal education.

—Some changes were made in the editorial corps of the New York *Teacher*. It was also resolved to urge the formation of auxiliary associations throughout the State. Miss Seaver gave an exhibition of object teaching with her ubiquitous class. Some important papers were read, and the discussions were usually animated and interesting. The Association adjourned on August 2d, to meet at Auburn in the 3d week of July, 1867.

About the same time, the Association of School Superintendents met at Geneva. The question of "rate-bills" was thoroughly discussed, and the following resolutions were adopted:

Resolved, That rate-bills should be abolished.

Resolved, That the State tax for the support of schools should at once be increased to at least 1¼ mills on each dollar of the valuation of taxable property in the State, as equalized by the State Assessors, and that in each district where the public money should prove insufficient for the payment of teachers' wages, the balance should be raised by tax levied on the property of the district.

It was also ordered, That the teachers should report to the Commissioners at the end of the first month of their engagements, and at the end of every term: with regard to the matter of the reports, that the subject be returned to the Committee, with instructions to prepare a plan for blank forms for reports, to be submitted to the State Superintendent, and report in full at the next annual meeting.

—This year the University Convocation held its meeting at Albany, beginning on August 7th, and continuing in session for three days. Its deliberations afford a marked contrast to those of the other educational associations held this year. In the College section, composed of officers of colleges throughout the State, Chancellor Ferris, of the University of New York City, offered a resolution that in the coming examinations for admission, plane geometry and additional classical attainments should be required. This was adopted. It was also determined that no student should be received *ad eundem*, but examinations are necessary in all cases. It was also resolved to revise the present college *curriculum*, and the following were adopted:

Resolved, That Mr. Pratt be requested to prepare for the next convocation an analogous presentation of the corresponding College *Curricula*.

Resolved, That these tables shall show how many hours in the entire four years' course are given to the following classes of studies:

Pure Mathemathics, Applied Mathematics, (embracing all physics mathematically treated), Natural Sciences (Chemistry, Geology, Botany, and Natural History); Latin and Greek, Modern Languages, History, Rhetoric and Belles Letters, Mental Science, Moral Science, and Religion.

During joint session a committee of three were appointed to report at the next meeting "On the true theory of Normal Schools and their practical relation to both the Common Schools and the Academies." The metrical system was discussed, and the Government rebuked for its hesitant action. A number of interesting papers were presented, and an able lecture upon teaching geography was delivered by Prof. Guyot.

PENNSYLVANIA.—The entire endowment of Alleghany College, Meadville, Pa., amounts to $140,000 after deducting some losses by the Culver failure. Toward the Alumnal Professorship some $15,000 have already been subscribed, but at least $15,000 more will be required for the same.

—The State Teachers' Association met at Gettysburgh on July 31st. The main matters of discussion were whether Pennsylvania could fill twelve Normal Schools; should the sexes be separated in schools; and the proper method of teaching grammar. No decision was arrived at respecting any of these. The best action of the session was a subscription for five shares of the Gettysburgh Memorial Association stock.

WESTERN STATES.

OHIO.—Jay Cooke has contributed $25,000 for the endowment of an additional theological professorship at Kenyon College, and has nominated the Rev. Dr. Bronson, rector of the Episcopal church in Sandusky, Ohio, to fill the chair.

COLORADO.—Bishop Randall has secured a lot consisting of five acres of eligible and beautiful land, situated within the limits of the city of Denver, upon which to erect a building for educational and religious purposes.

INDIANA.—The National Teachers' Convention began its sessions at Indianapolis on August 15th, and adjourned on the 17th. The attendance was full, and the papers read appear to have been valuable, and of deep interest. We have not yet obtained a complete report.

SOUTHERN STATES.

MARYLAND.—The Baltimore Association for the moral and educational improvement of the colored people has succeeded in establishing eight schools, with a daily attendance of not less than 2,500 pupils.

NORTH CAROLINA.—Agricultural College Scrip, to the amount of 270,000 acres, has been issued to the State of North Carolina. This is the first scrip that has been received by a Southern State, that of Virginia being now in preparation.

VIRGINIA.—Mr. C. H. McCormack, of Chicago, has given to the Union Theological Seminary at Hampden Sydney, Prince Edward county, Virginia, $30,000, the endowment of a professorship. Mr. McCormack has also added $5,000 to his contribution of ten thousand for the endowment of a professorship in Washington College, Lexington, Va., of which Gen. Lee is President.

MISSISSIPPI.—Oakland College has a permanent fund of about $100,000, the most of which, it is hoped, will be safe. By the first of January, 1867, a considerable income will be derived from this fund. Oakland has also permanent improvements, buildings, etc., which could not be erected for any thing like $100,000 at the present rates of building.

CURRENT PUBLICATIONS.

OUR attention has lately been called to Welch's Analysis.[1] We can only speak of some of its peculiarities—our space will not permit us to treat the book exhaustively.

The author says in the preface: "We have changed the old nomenclature wherever it was inadequate or meaningless; yet no innovations have been made without the most serious and urgent reasons." Again: "In completing our task, we have been influenced neither by a love of novelty on the one hand, nor on the other by a foolish attachment to time-honored errors." Again: "The entire system has been thoroughly tested by teaching it to advanced classes in the State Normal School."

The object of all grammatical analysis is to teach the scholar to write, speak, and understand his language, whatever it may

(1) ANALYSIS OF THE ENGLISH SENTENCE, DESIGNED FOR ADVANCED CLASSES. By A. S. WELCH, A.M., Principal of Michigan State Normal School. New York: A. S. Barnes & Co.

be. The principles of analysis are for the most part universal in their application; at least, we have been taught thus to believe. We may be in error regarding the true office of analysis; if so, we shall be most happy to be corrected.

Who this Mr. Welch is, whose office it is to change the nomenclature of grammar only for the most urgent reasons, we have not the honor of knowing. How this system has been thoroughly tested by classes in the Normal School of Michigan, we can hardly understand. We had supposed that, as a rule, scholars in State Normal Schools did not possess the qualifications requisite to a thorough test of the English language and its grammatical analysis; but in this as in other respects, we are ready to be corrected.

Unhappily for the cause of Education, we have in this country more authors than students; we are truly a nation of inventors; every American feels it his bounden duty to express himself in season and out of season, thinking that his peculiar views are full as important to the nation at large as to himself.

The old maxim, "make haste slowly," is little appreciated, and rather than not say any thing we are willing to contradict assertions each succeeding day of existence.

Of the sentence "I know who troubles you," Mr. Welch says: "*Who* is an interrogative pronoun." Why interrogative? In all languages, without a single exception, and by all grammarians of any note, this word *who*, in this sentence, is called a *relative*. It remains for Mr. Welch to discover its interrogative character.

We protest against this manner of disposing of *time-honored* and universal definitions. The answer to this probably is: This is in accordance with his definition. Because one chooses, contrary to a universal notion, to assert that the right angle has more than ninety degrees, and then proves, that the sum of the angles in a plane triangle is less than two right angles, shall triangulation be performed according to his dictum?

Of *Mode* the author says: "The English verb cannot be said to have mode. The so-called potential mode is a collection of words completely analyzable. It is composed of a principal verb (*may*, *can*, or *must*) and an infinitive limiting this verb."

This idea has not the merit of novelty; one hundred-years ago, it was referred to by different authors—only they failed to see that *mode* was thus done away with. The same remark might with equal fitness be made of the Aorist middle, *ἐ-βουλεν-σάμην*, or the pluperfect, *ἐβε-βουλευ μην*, of the Aorist, *ἐ-βούλευ-σα*, and of the other parts of the Greek verb. Equally well might it be said of the pluperfect of the Latin verb *amo*, *amav—eramus*, which is made up of the imperfect of the verb *sum* and the verb; it equally applies to the French future *parler-ai*, formed from present-indicative and the infinitive, or to the conditional *parler-ais* formed from the present-subjunctive and the infinitive. The Italian futuro-imperfetto *cred-eramo*, the conditional *cred-erebbeno*, etc.; the Spanish *asènti-éremos*, the present-indicative, first pluperfect *acord-amos*, etc., are subject to the same remark. The German verb which has a perfect analogy to the English, and whose genesis is the same in its formation, comes especially under this observation. Yet fair scholars, Grimm, Döderlein, Schlegel, Bopp, and others have never made this wonderful discovery. The Sanscrit is liable to the same objection—the verb is made up of the verb *to be*, *to create*, and the infinitive—the verb *to be* formed from a root and certain pronominal elements which are readily explained.

We cannot see what difference it makes whether the verbs *to be* and *to have* are placed before or after the infinitive. The fault rests in the definition. Mode is not a change in the form or termination of a verb to indicate the manner in which it expresses something of its subject. That the English verb has five modes or ways in which an action or circumstance may be stated, will continue to be taught, Mr. Welch to the contrary.

Speaking of the change in termination the author says: "The English verb in its modern use affords but one example of such change. The "Analysis" was written to be used in connection with Clark's New Grammar, which sufficiently accounts for this observation. We have yet to learn that the pronoun *thou* is obsolete, and we think little of the reading of one who has come to such a conclusion. Is not the author aware that the change in termination is not made to agree with a subject going before, but that this change is the pronominal element annexed to the verb to denote its person and number, in the same way as in

Sanscrit, Greek, Latin, etc? Mr. Welch says of tense: "The present, perfect, and past-perfect are substitutes, but are not analyzable, and consequently must be retained as tenses. But the futures may both be analyzed and taken out of the conjugation, although it does not, at present, seem expedient to do so." We thus have the promise of good things to come, when there shall be no such thing as tense, and perhaps even time itself shall be no more. The weary schoolboy is encouraged. The grammarians may yet do something for humanity, if not for the humanities.

On page 97, we find this pleasing observation. "The English verb has no passive voice. In place of such a voice we have a neuter sentence, which can be completely analyzed." Why always this limit to the English verb? As we have before stated, Sanscrit, Greek, German, the Scandinavian family of languages, Latin, and, as a sequence, the Romance languages have the same peculiarities—the only difference in some of them consisting in the position of the auxiliary verb and the subject. The remark, that the passive voice may be analyzed, is made in dozens of German grammars, and this voice is always analyzed by the German scholar, but he does not for this reason assert the non-existence of the passive.

The classification of the irregular verbs according to their similarity of form in the past tense and perfect participle, is evidently presented not only as a novelty, but as a great improvement. Ahn's small German Grammar has the same thing; though this is no reason why Mr. Welch should not adopt it, and it has decided merit.

There are many things in this work that are admirable and well stated; the author has displayed considerable ingenuity and nice thought in the way of disposing of many difficult phrases and sentences that have been a source of vexation to the scholar. The arrangement of the topics is good, the gradual development of the subject is well done, and his treatment of the infinitive and present participle, the most difficult subjects in the language, merits the attention of all teachers; while his theory of *complement* is presented in a masterly manner. The author's remarks, page 47 and 48, on the office of the relative as a connective are not in our opinion correct, and the subject is presented in a more logical manner by Kiddle in his analysis, page 66, Brown's grammar, and in other parts of the work. With respect to the author's treatment of the words *than*, *but*, and other words of like character, there will always be a difference of opinion, but his teaching agrees with that of Mr. Clark, whose grammar this "Analysis" is designed to follow.

We do not think the "Course of Time" the best poem to offer for analysis; but this is a matter of taste, about which there may be no dispute. The pronouns, the formative element in all languages, are well classified, and their offices clearly stated. But the faults to which we have referred will always work against the adoption of this work as a text-book in our best schools.

It is generally considered that it is inappropriate to commence the daily exercises of a school without prayer. Whether the teacher is a professor of religion, or not, there is a respect for the act of worship, which, even under the most untoward circumstances should not be disregarded. It does not follow that, because one is a good teacher, he is in consequence gifted in public prayer. The awkwardness of the inexperienced, has often produced a confusion in the devotional exercises, which is, to say the least, highly undesirable. He who fails at extempore prayer, naturally turns to a Liturgy for assistance, obtaining a partial relief in the use of that which has to be repeated each day; and often stumbles into more grievous embarrassment on finding that, in selecting the Liturgy of one denomination, he has done violence to the feelings of some of his pupils, or their parents, who consider some other denomination the truly orthodox one.

Now, suppose such a teacher to be supplied with *Worship in the School-room*.[2] At once his difficulties are at an end. In this he has all the verbal helps to prayer that he can reasonably ask for. Not one form of prayer, to be repeated every day, falling on children's ears as a stale formality, but a fresh prayer every day, ready for almost every variety of returning need, and expressed in language so simple, pointed, and comprehensive, that children can unite with their teacher in thus laying their wants before the Great Father of all. But the prayer is not the only act of worship

(2) Lessons and Prayers for the School Room, the Family, and the Social Circle. By W. S. Wylie. New York: J. W. Schermerhorn & Co.

provided. Accompanying it, and intimately linked with it in idea and expression, are the pleasing and instructive exercises of singing and of reading the Word of God. The lesson of each day is on some particular topic; the hymns, the passages of Scripture, and the prayer, all being so selected and constructed as to bear upon each other, to throw light upon each other, and to impress those who engage in the worship with the thought that true worship is not a mere random utterance of devout thought, but a reverent, systematic, and intelligent approach to God.

In the family, too, daily prayer, if not as universal a custom as it ought to be, is yet one that commands respect, and is, to a very great extent, followed. A book which furnishes such aid as the present publication cannot but promote the general observance of the good custom. In many families, inexperience, or inability to pray "out aloud," has been the excuse for a neglect of household prayer. With this book in his hand, the most inexpert *pater familias* can lead the devotions of his house to the edification of all who are present; and all who can read and sing can do their part in making the habitation vocal with the sound of praise. Family prayer, where the family all sing, is immeasurably better than where there is no singing. With the musical notes printed with the words, as they are here, there are few families in these days of pianos and cabinet organs, which should be mute at time of prayer.

A very noteworthy feature of the book, is, the character of its prayers, of which there are some two hundred and fifty, each by a different author. Most of the writers are ministers; the rest are lawyers, teachers, merchants, statesmen, military men, and, in fact, representatives of almost every profession. Whatever may be in the future for us in the way of organic union of the different sects of Christianity, the most ardent promoters of the scheme cannot see that such union actually exists now. But in these prayers we see something more valuable than the mere external form of union. The writers prepared them without consultation with each other as to what expressions should be used, or what petitions should be indited; and from each one, of whatever persuasion, goes up to the same Father of all the outpouring of his children's wants, in such terms as to show that, by what name soever we may be called, we are one when we bow before the mercy-seat. Such a collection of prayers, prepared under such circumstances, and with such result, would of itself make the book a truly valuable one.

But it is not only the inexperienced teacher, or the blundering, timid utterer of household prayer, who needs the help which the book affords. The most learned, the most gifted in prayer, will find it an advantageous, as well as an agreeable companion.

Had Louis Napoleon's work on Julius Cæsar been written by any ordinary individual it would have received barely a passing notice. As a literary work it is inartistic, as a history it is a mass of warped and distorted statements. The author aims to give the life of Cæsar, not as he was, the destroyer of Roman liberty, but of a hypothetical Cæsar, the creator of Roman glory, the greatest of ancient benefactors of the human race, the precursor and foreshadower of Napoleon I. Such being his purpose, the royal historian can hardly be impartial.

The second volume of the history,[3] comprising books III. and IV., narrates the Gallic Wars and the contemporary events at Rome, covering a space of eight years. The opening chapter is nominally a discussion of the political causes of the war, but really a defense of Cæsar against the charge that in his Gallic and German campaigns he aimed at supreme power. Had that been his object, he was foolish, says the author, to continue the Gallic wars for eight years, or to undertake the doubtful expeditions into Britain and Germany, when after his early victories he might justly have returned to Rome and claimed a triumph. He went not to obtain supreme power, but only to secure that honorable glory resulting from successful wars in behalf of one's country. The second chapter is a description of Gaul, and, though well adulterated with Napoleonic ideas, contains much valuable geographical information, as the author has bestowed much labor upon the identification of ancient with modern localities.

The remainder of Book III. is an account

(3) History of Julius Cæsar. Vol. II. The Wars in Gaul. New York: Harper & Brothers. 8vo, pp. 659. $4.00.

of Cæsar's campaigns, following with great exactness the order of the "Commentaries," of which it is in great measure only a paraphrase. The historian has employed engineers to examine the scene of Cæsar's operations, and by proving the accuracy of that general's statements has rendered good service to ancient history. Book IV. is a recapitulation of Book III., and a relation of events occurring at Rome from A. U. C. 696 to 705. It is due to Cæsar to state that he tells his own story better in Book III. than Napoleon tells it for him in Book IV. The omission of this recapitulation would have added to the symmetry of the work, by rendering the relation of events at Rome a connected narrative instead of the wretched patchwork that it now is. The volume ends with the crossing of the Rubicon and a defense of this step. Claiming that he who renders war necessary, not he who declares it, is the author of war, Napoleon casts the odium of the civil war upon Pompey and the aristocratic party. Cæsar was no destroyer, he was the supporter of the common wealth, for his death threw the whole into confusion.

Throughout the work the author manifests a fondness for parallelisms between Cæsar and the Napoleons. At the close of Book III., chap. ii., he clinches an argument in behalf of centralization by a long quotation of his uncle's opinions. On page 191, he compares Cæsar's first descent upon Britain with his uncle's descent in 1804. He forgets to add that the attempts were thoroughly alike in results; in both cases the fleets returned without gaining any thing but loss and discomfort. On page 545 we learn that Cæsar and the author were alike unfortunate. Owing to a lack of friendship between the Senate and Cæsar, the former shortened the latter's term of command by nearly two years. Napoleon III. was in like manner, as he thinks, shabbily treated by the Constituent Assembly, as appears by the following note: "At all times the Assemblies have been seen striving to shorten the duration of the powers given by the people to a man whose sympathies were not with them. Here is an example. The Constitution of 1848 decided that the President of the French Republic should be named for four years. The Prince Louis Napoleon was elected on the 10th of December, 1848, and proclaimed on the 20th of the same month. His powers ought to have ended on the 20th day of December, 1852. Now, the Constituent Assembly, which foresaw the election of Prince Louis Napoleon, fixed the termination of the Presidency to the second Sunday of the month of May, 1852, thus robbing him of seven months." He might have added that both he and Cæsar took ample satisfaction by treacherously overthrowing the Republic to which they owed their elevation.

The translator deserves great credit for his success in distorting our language. Napoleon may have used good French, but the translator has used execrable English. From his improper use of prepositions and his mismanagement of tenses, we think that English is not his native tongue.

The child being "father to the man," and susceptible to the same influences, the teacher who wishes to succeed in the government of his school must bring to bear upon his pupils influences similar in kind to those which have proved efficient in the government of men. Hence the efficacy of reports and records, and the various other means which every teacher "skilled to rule" knows how to use in creating and sustaining an *esprit de corps* in school. We have seen nothing better adapted to accomplish this end, especially among young children, than "Aids to School Discipline."[4] They must be very efficient both in the discipline of schools and in the promotion of a scholarly pride and emulation. And another and not less important end is gained by them. Nothing serves more to advance the interests of a school than the creation of an active parental interest in whatever pertains thereto. This interest may be secured either by bringing the parents frequently to the school to note its condition and progress—a very hard thing to do, as every teacher can testify—or by bringing the school daily home to the parents. This is done by the Aids, and in a manner that cannot fail to arouse attention and interest.

The "Aids" consist of a system of CARDS, CHECKS, and CERTIFICATES, representing perfect *days*, *weeks*, and *months*. They are beautiful and appropriate in design, and will doubtless be immensely popular.

(4) AIDS TO SCHOOL DISCIPLINE (beautifully illuminated), by which may be secured all the good results of School Records, Weekly and Monthly Reports and Stated Prizes, with great Economy of Time and Labor. New York: J. W. Schermerhorn & Co. Price per set, $1.25.